

REMARKS

Claims 1-3, 6-14, 17-32 are pending in this application for the Examiner's review and consideration upon entry of this paper. New claim 33 has support in the application as-filed, for example at Example 10 and Table 3. Claims 1, 3, 12, 14, 29, and 30 have been amended to more clearly recite the claimed invention. Applicants respectfully request entry of this response and allowance of the claims. No new matter has been added.

I. The Rejection Under 35 U.S.C. § 103 Should Be Withdrawn

Claims 1-3, 6-14, and 17-28 are rejected on pages 2-4 of the office action under 35 U.S.C. § 103(a) as allegedly obvious over Lin, *Proceedings of the 1999 International Palm Oil Palm Oil Congress (Chemistry and Technology)*, Feb. 1-6, 1999, 82-93 ("Lin") as evidenced by *Baileys Industrial Oil and Fat Products*, Vol. 1, Fourth Ed., Swern ed., John Wiley & Sons, New York, 1979, pp. 383, 394, 399, and 430 ("Bailey's").

The U.S. Supreme Court analyzed the test for obviousness in *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007). "There is no necessary inconsistency between the [teaching, suggestion, motivation] test and the Graham analysis. But a court errs where it transforms general principle into a rigid rule limiting the obviousness inquiry." *Id.* The Supreme Court's analysis in *KSR* relies on several assumptions about the prior art landscape. First, *KSR* assumes a starting reference point or points in the art, prior to the time of invention, from which a skilled artisan might identify a problem and pursue potential solutions. Second, *KSR* presupposes that the record up to the time of invention would give some reasons, available within the knowledge of one of skill in the art, to make particular modifications to achieve the claimed compound. *See Takeda*, 492 F.3d at 1357. Third, the Supreme Court's analysis in *KSR* presumes that the record before the time of invention would supply some reasons for narrowing the prior art universe to a "finite number of identified, predictable solutions," *KSR* 127 S. Ct. at 1742. In *Ortho-McNeil Pharmaceutical, Inc. v. Mylan Laboratories, Inc.*, 520 F.3d 1358, 1364 (Fed. Cir. 2008), the Federal Circuit further explained that this "easily traversed, small and finite number of alternatives . . . might support an inference of obviousness." However, to the extent an art is unpredictable, as the chemical arts often are, *KSR*'s focus on these "identified, predictable solutions" may present a difficult hurdle because potential solutions are less likely to be genuinely predictable. *Takeda Chemical Industries, LTD et al. v. Alphapharm PTY., Ltd.*, 492 F.3d 1350 (Fed. Cir. 2007).

The claims encompass blending and fractionation processes for obtaining an oil composition and novel compositions obtained therefrom.

First, Applicants respectfully submit that the Examiner has misunderstood the paper by Lin by thinking that the “heating” step under the “Modified Cold Test” paragraph is immediately followed with the blending step, cooling/fractionation under the “Fractionation of Palm Oil-unsaturated Oil Blends” paragraph, when in fact they are two separate procedures. Indeed, the heating step under the “Modified Cold Test” paragraph is to be completed after the “Fractionation of Palm Oil-unsaturated Oil Blends” procedure has been completed. The steps in the “Modified Cold Test” procedure are to be carried out on the end-product of the “Fractionation of Palm Oil-unsaturated Oil Blends” procedure, as well as on pure palm oleins so that a comparison can be made.

In contrast to the pending claims, Lin does not disclose or suggest heating to melt all crystals before commencement of fractionation. Moreover, Lin does not disclose the composition of the end-product, and Applicants reiterate that the ratio of fatty acids in step (d) of pending claim 1 (*i.e.*, the end-product) is not a function of the amount of each of the oils used in the starting blend. Based on the composition blends, it would not be possible for a person skilled in the art to calculate the fatty acid ratios that will be obtained after melting the crystals and after subsequent fractionation using the procedure described by Lin. The fatty acids are distributed in the complex mixtures of triacylglycerols, and therefore, it would not be predictable as to how the final ratio is attained. Indeed, one of the inventive features of the invention is the ascertainment of the ratios of palm oil/palm stearin to soybean oil in the starting blends to obtain the 1:1:1 ratio of saturated/monounsaturated/polyunsaturated ratio in the end-product.

Bailey does not remedy the deficiencies of Lin. Applicants respectfully submit that the claims would not be obvious in light of Lin and/or Bailey. Indeed, it would not be obvious for a person skilled in the art even after having read Lin and Bailey that it would be possible to obtain an oil composition as mentioned in claim 1 by using all the sequence/combination of steps and conditions set out in the amended claim 1. Applicants respectfully point out that the Examiner appears to have misunderstood Lin by assuming that the procedure described under the subtitle, “Modified Cold Test” on page 82 was followed by (*i.e.*, combined with) the procedure under the subtitle, “Fractionation of Palm Oil-unsaturated Oil Blends” on page 82-83 (as is evident by the Examiner’s comments that “The blended oils

are heated to 70 °C to remove all of the traces of crystals in the oil blend and then cooled. In fact, Lin was describing two different procedures.

The “Fractionation of Palm Oil-unsaturated Oil Blends” described in Lin was a procedure to blend palm oil with another vegetable oil containing unsaturated oils (e.g., soyabean oil, corn oil, sunflower oil) and then fractionate the blended oils.

The “Modified Cold Test” procedure described in Lin was a procedure to ascertain the cloud point of various oil samples (i.e., the temperature at and below which the particular oil sample will start to crystallize/solidify). This test was applied to both pure palm oleins and blends of palm oil with vegetable oil containing unsaturated oils (said blends being obtained from the aforesaid procedure described as Fractionation of Palm Oil-unsaturated Oil Blends”).

Thus, a person of ordinary skill in the art would be provided with the following teaching by the “Fractionation of Palm Oil-Unsaturated Oil Blends” procedure described by Lin to produce fractionated blended oils:

- (a) to blend palm oil with for example soyabean oil in proportions of 9:1 or 7:3
- (b) to cool the blended oils to 20 °C and 8 °C
- (c) to separate out the resulting crystals from the liquid fraction by filtration.

The person of ordinary skill in the art would be further provided with the following teaching by the “Modified Cold Test” procedure described by Lin to ascertain the cloud point of the fractionated blended oils obtained above and compare that with the cloud point of pure (unblended/unfractionated palm oleins):

- (a) by heating the liquid fraction at 70 °C for half an hour to remove any traces of crystals
- (b) by subsequently storing samples of the liquid fraction at different temperatures and ascertain at which temperature the liquid fraction starts to crystallize/solidify.

In contrast, the invention encompassed by the pending claims recites the following sequence of steps:

- (i) blending palm oil with soyabean oil etc in proportions of 9:1 to 5:5;
- (ii) heating the aforesaid blended oils at 50-65 °C until all crystals are melted (note that this heating step immediately after the blending was

NOT disclosed by Lin – the heating at 70 °C disclosed by Lin was to be applied for the Modified Cold Test procedure, which would take place much later on, and even then this Modified Cold test procedure was merely to ascertain the cloud point of the blended fractionated oils as well as pure palm oleins, and did NOT constitute one of the steps to produce the blended fractionated oils;

- (iii) cooling the liquid obtained from (ii) above from a temperature of above the melting point of the oils to that of temperatures from 8-20 °C for 4-24 hours (this was NOT disclosed or suggested by Lin)
- (iv) separating the mixture of crystals and oil fraction.

For at least the foregoing reasons, Applicants respectfully submit that the rejection of claims 1-3, 6-14, and 17-28 under 35 U.S.C. § 103(a) as allegedly obvious should be reconsidered and withdrawn.

II. The Rejections Under 35 U.S.C. § 102(b)/103(a) Should Be Withdrawn

Claims 18-21, 27, and 28 are rejected on pages 4-5 of the office action under 35 U.S.C. § 102(b) as anticipated by or obvious over U.S. patent number 4,282,265 to Theuer (“Theuer”).

As the Examiner is aware, to establish anticipation, a single prior art reference must disclose each and every limitation of a claim either expressly or inherently. *See Celeritas Techs. Ltd. v. Rockwell Int’l Corp.*, 150 F.3d 1354, 1360 (Fed. Cir. 1998); *Standard Havens Prods., Inc. v. Gencor Indus., Inc.*, 953 F.2d 1360, 1369 (Fed. Cir. 1991); *Jamesbury Corp. v. Litton Indus., Inc.*, 756 F.2d (Fed. Cir. 1985); *American Hospital Supply v. Travenol Labs.*, 745 F.2d 1 (Fed. Cir. 1984) (holding that prior art is anticipatory only if every element of the claimed invention is disclosed in a single item of prior art). There must be no difference between the claimed invention and the reference disclosure as viewed by one of ordinary skill in the art. *See Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991); *Carella v. Starlight Archery Co.*, 804 F.2d 135, 138 (Fed. Cir. 1986); *RCA Corp. v. Applied Digital Data Sys.*, 730 F.2d 1440, 1444 (Fed. Cir. 1984) (holding that anticipation requires that all of the elements and limitations of the claim are found within a single prior art reference).

The claims encompass compositions including, *inter alia*, saturated fatty acids, monounsaturated fatty acids and polyunsaturated fatty acids in a ratio of about 1:1:1. Applicants respectfully submit that Theuer does not disclose or suggest an oil composition in this range.

For at least the foregoing reasons, Applicants respectfully submit that the rejection of claims 1-3, 6-14, and 17-28 under 35 U.S.C. § 102(b)/103(a) as allegedly anticipated or obvious should be reconsidered and withdrawn.

III. The Rejection Under 35 U.S.C. § 102(b) Should Be Withdrawn

Claims 29-32 are rejected on page 5 of the office action under 35 U.S.C. § 102(b) as anticipated by Theuer.

The claims encompass compositions including, *inter alia*, saturated fatty acids, monounsaturated fatty acids and polyunsaturated fatty acids in a ratio of about 1:1:1. Applicants respectfully submit that Theuer does not disclose or suggest an oil composition in this range.

For at least the foregoing reasons, Applicants respectfully submit that the rejection of claims 29-32 under 35 U.S.C. § 102(b) as allegedly anticipated should be reconsidered and withdrawn.

IV. The Rejections Under 35 U.S.C. § 112, First Paragraph, Should be Withdrawn

Claims 1-3, 6-14, and 17-28 are rejected under 35 U.S.C. § 112, first paragraph, as lacking enablement.

Applicants respectfully submit that the claims have been amended thereby rendering the rejection moot.

For at least the foregoing reasons, Applicants respectfully submit that the rejection of claims 1-3, 6-14, and 17-28 under 35 U.S.C. § 112, first paragraph, should be reconsidered and withdrawn.

Claims 1-3, 6-14, and 17-28 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Applicants respectfully submit that the claims have been amended thereby rendering the rejection moot.

Applicants submit that one of ordinary skill in the art would readily understand the meanings of the following terms based on the specification:

PO = palm oil

CO = corn oil

SBO = soyabean oil

SFO = sunflower oil

UO = unsaturated oil

SFC = solid fat content

PS = Palm st = Palm stearin

For at least the foregoing reasons, Applicants respectfully submit that the rejection of claims 1-3, 6-14, and 17-28 under 35 U.S.C. § 112, first paragraph, should be reconsidered and withdrawn.

V. The Rejection Under 35 U.S.C. § 112, Second Paragraph, Should be Withdrawn

Claim 22 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Applicants respectfully submit that claim 22 has been canceled thereby rendering the rejection moot.

For at least the foregoing reasons, Applicants respectfully submit that the rejection of claim 22 under 35 U.S.C. § 112, second paragraph, should be reconsidered and withdrawn.

VI. Conclusion

It is respectfully submitted that all claims are now in condition for allowance, early notice of which would be appreciated. Should the Examiner disagree, Applicants respectfully request a telephonic or in-person interview with the undersigned attorney to discuss any remaining issues and to expedite the eventual allowance of the claims.

Except for issues payable under 37 C.F.R. 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310.

Respectfully submitted,

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